

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-12 (Canceled).

Claim 13 (Previously Presented): A biochip comprising:

a plurality of molecular recognition areas distributed with a determined layout to create a format of molecular recognition areas, wherein the molecular recognition areas include specific recognition areas that have fluorescent patterns, said specific recognition areas being arranged at predefined locations on the biochip with respect to other areas of the molecular recognition areas; and

a plurality of optical position marks for the plurality of molecular recognition areas, distributed with a determined layout to form an optical format, wherein the molecular recognition areas and the optical format are spatially independent, and

the specific molecular recognition areas provide means for determining a relative position of the optical format to the molecular recognition areas.

Claim 14 (Canceled).

Claim 15 (Previously Presented): A biochip according to claim 13, wherein the optical position marks includes a sequence of engraved areas and non-engraved areas.

Claim 16 (Previously Presented): A biochip according to claim 15, wherein the engraved areas and non-engraved areas form a checker board.

Claim 17 (Previously Presented): A biochip according to claim 16, wherein areas of the checker board are oblique with respect to the molecular recognition areas.

Claim 18 (Previously Presented): A biochip according to claim 15, wherein a surface area of each recognition area is greater than a surface area of an engraved area or a non-engraved area of the optical format.

Claim 19 (Canceled).

Claim 20 (Previously Presented): A biochip according to claim 13, further comprising a layer or a stack of thin layers, facilitating reflection of an optical format tracking beam, arranged between the optical format and the molecular recognition areas.

Claim 21 (Previously Presented): A device for reading a biochip defined in claim 13, comprising:

- a first optical head configured to project first incident light onto the biochip;
- first means for scanning the biochip by the first incident light;
- a second optical head configured to project second incident light onto the biochip;
- second means for scanning the biochip by the second incident light;
- a first optical system associated with an optical head to project first light originating from the biochip and related to the first incident light onto a first optoelectronic sensor, demonstrating presence or absence of target molecules on each molecular recognition area, the first optoelectronic sensor configured to supply signals corresponding to the first light;
- a second optical system associated with an optical head to project second light originating from the optical format of the biochip and related to the second incident light onto

a second optoelectronic sensor, the second optoelectronic sensor configured to supply signals corresponding to the second light;

first means for recording at least part of the signals corresponding to the first light;

second means for recording at least part of the signals corresponding to the second light; and

means for processing said signals corresponding to the first light and signals corresponding to the second light on a fictitious biochip and determining a relative position between the optical format and the molecular recognition areas.

Claim 22 (Currently Amended): A device according to claim 21, wherein the ~~first and second~~ optical heads are coincident.

Claim 23 (Currently Amended): A device according to claim 21, further comprising a mechanical system or an autofocus system to maintain ~~[[the]]~~ focus of ~~[[the]]~~ a reading beam on ~~[[the]]~~ a surface of the biochip.

Claim 24 (Previously Presented): A device according to claim 23, wherein the autofocus system includes a piezoelectric actuator and means for slaving the actuator.

Claim 25 (Previously Presented): A biochip according to claim 13, further comprising a break that provides a coarse delimitation indication of where the molecular recognition areas are on the biochip.

Claim 26 (Previously Presented): A biochip according to claim 13, wherein the first areas of the molecular recognition areas are randomly arranged on the optical format.

Claim 27 (Currently Amended): A device according to claim 22, wherein the coincident optical ~~head is~~ heads are not continuously slaved due to information supplied by the optical position marks, the optical read passes along a predefined scanning path on a surface of the biochip, and fluorescence information and positioning information derived from the optical position marks is simultaneously recorded.

Claim 28 (Previously Presented): A biochip according to claim 13, wherein the optical format and the molecular recognition areas are not aligned with respect to each other.

Claim 29 (Previously Presented): A biochip comprising:  
a plurality of molecular recognition areas distributed with a determined layout to create a format of molecular recognition areas,  
a plurality of optical position marks for the plurality of molecular recognition areas, distributed with a determined layout to form an optical format,  
wherein the optical format and the molecular recognition areas are spatially independent with respect to each other, and  
the biochip provides means for determining a relative position of the optical format and the molecular recognition areas.

Claim 30 (Previously Presented): A biochip according to claim 29, wherein the optical format and the molecular recognition areas are not aligned with respect to each other.